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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,862	06/02/2004	Otis L. Nelson JR.	200402PM	3861
23688	7590	12/14/2007		
Bruce E. Harang PO BOX 872735 VANCOUVER, WA 98687-2735			EXAMINER TOOMER, CEPHIA D	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 12/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/709,862	Applicant(s) NELSON ET AL.	
	Examiner Cephia D. Toomer	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to the amendment filed September 26, 2007 in which claims 1-12 were amended and claims 13 and 14 were added. The rejection of the claims under 35 USC 112, second paragraph is withdrawn in view of the amendment to the claims.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 7-10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson (6,488,723) in view of Orr (6,039,772).

Nelson discloses a motor fuel additive composition comprising (a) a fuel conditioner component and (b) a detergent component. The fuel conditioner (a)

comprises (i) from 2 to 50 percent by weight of a polar oxygenated hydrocarbon compound and (ii) from about 2 to about 50 percent by weight of an oxygenated compatibilizing agent. The detergent component (b) is selected from the group consisting of (i) a reaction product of a substituted hydrocarbon (A) and an amino compound (B), and (ii) a polybutylamine or polyisobutylamine (see abstract). The polar oxygenated hydrocarbon has an average molecular weight of from about 200 to about 500, and acid number of about 25 to 175, and a saponification number of about 75 to about 200 (col. 7, lines 11-33). The oxygenated compatibilizing agent has a solubility parameter of from about 7.0 to about 14.0 and moderate to strong hydrogen-bonding capacity (col. 7, lines 53-62). The hydrocarbon compound (A) of the detergent component is a substituted hydrocarbon of the formula R_1-X wherein R_1 is a hydrocarbyl radical having a molecular weight in the range of about 150 to 10,000 and X is selected from the group consisting of halogens, succinic anhydride and succinic dibasic acid (col. 4, lines 52-65). The amino compound (B) is of the formula $H-(NH-(A)_m)_n-Y-R_2$ wherein Y, A, m, n, and R_2 are identical to those in the instant claim 8 (col. 5, lines 1-21). The polybutylamine or polyisobutylamine is identical to that in instant claim 8 (col. 6, lines 30-46). Further, the composition includes other additives such as methyl tertiary butyl ether (MTBE) and ethyl tertiary butyl ether (ETBE), alcohols such as methanol or ethanol, and additives that are "typically employed in motor fuels" such as common anti-knock additives (col. 9, lines 56-60). Nelson also discloses examples wherein the additive composition was added to a base fuel in amounts between 40 ppm and 1000 ppm (col. 10, lines 44-50; col. 11, lines 14-20).

Nelson is silent with respect to the composition comprising methylcyclopentadienyl manganese tricarbonyl (MMT).

Orr discloses a fuel additive composition comprising MMT and a fuel conditioner. The conditioner comprises polar oxygenated hydrocarbons, such as aliphatic alcohols, and methyl propyl ketone, an oxygenated compatibilizing agent. MMT is included at low amounts of from about 0.001 to about 0.1 gram/gallon as a known anti-knock additive (col. 1, lines 30-45; col. 12, lines 17-28; claim 12).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize MMT as the anti-knock additive in Nelson, as it is an anti-knock additive "typically employed in motor fuels", and would therefore reduce engine knocking and increase octane rating.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Cunningham (5,679,116).

The discussion of Nelson in paragraph 5 above is herein incorporated by reference.

Nelson is silent with respect the composition comprising MMT, and the order in which the additive is added to a base fuel.

Cunningham discloses a fuel additive composition comprising MMT, a detergent, polar oxygenated hydrocarbons, and organic solvents, which could be oxygenated compatibilizing agents (col. 2, lines 12-67; col. 11, lines 23-30). Further, MMT is included at low amounts in the range of about 0.0078 to about 0.25 g/gal (col. 14, lines

19-60). The inclusion of MMT proves to be beneficial as well by enhancing the performance of the detergent (col. 9, lines 1-6). Additionally, it is preferable to blend the components of the additive composition with a base fuel concurrently, but they can also be added to the base fuel either individually or in various subcombinations (col. 15, lines 44-52). It would have been obvious to one of ordinary skill in the art to combine the teachings of Nelson and Cunningham in order to utilize MMT as an anti-knock additive, as well as to include the advantages of performance as disclosed by Cunningham.

Applicant's arguments have been fully considered but they are not persuasive.

Applicant argues that adding the MMT to the additive package before mixing into the fuel as opposed to adding the MMT to the fuel before or after mixing in the additive package is not obvious. Applicant argues that by practicing the present invention lower amounts of MMT is required to maintain the anti-knock performance and ORI reduction.

Applicant has provided no examples to support his argument. The 2 examples set forth on page 19 do not show what Applicant is alleging. Furthermore, it would be reasonable to expect that less MMT would be required because the fuel conditioner reduces the deposits in the intake system and combustion chamber, thus requiring less octane enhancement.

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Cephia D. Toomer
Primary Examiner
Art Unit 1797

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